

What is claimed is:

1. A method of verifying the contents of a package, the method comprising:
  - obtaining a spectral image of a first package, the first package having a plurality of receptacles configured to receive an item, wherein the plurality of first package receptacles do not contain any items;
  - acquiring a spectral image of a second package, the second package having a plurality of receptacles configured to receive an item, wherein the plurality of second package receptacles each contain an item; and
  - comparing the spectral image of the first package with the spectral image of the second package;
  - wherein acquiring a spectral image of a second package comprises acquiring a plurality of spectral image lines; and
  - wherein each of the spectral image lines comprises a plurality of image pixels.
2. The method of claim 1, wherein each image pixel comprises a spectral response measured at a plurality of wavelengths.
3. The method of claim 1, wherein acquiring a plurality of spectral image lines is performed by a push-broom scanning imaging spectrometer.
4. The method of claim 1, wherein each of the spectral image lines is one pixel wide.

5. The method of claim 4, wherein each of the spectral image lines has a length of  $n$  pixels, wherein  $n$  is an integer.
6. The method of claim 1, further comprising determining the location of the plurality of receptacles in the second package by isolating the image pixels corresponding to the items in the second package receptacles.
7. The method of claim 1, wherein the plurality of items are tablets and wherein the package is an unsealed blister-pack.
8. The method of claim 1, wherein the plurality of items are capsules and wherein the package is an unsealed blister-pack.
9. The method of claim 1, further comprising determining the chemical composition of each of the items in the second package.
10. The method of claim 9, wherein determining the chemical composition of each of the items in the second package is by near-infrared spectrographic analysis.

11. A method of verifying the location of package contents, the method comprising:
- acquiring a reflectance signal of a package, the package having a plurality of receptacles configured to receive an item, wherein each of the plurality of receptacles contains an item, wherein the reflectance signal comprises a plurality of image pixels;
- isolating the image pixels that correspond to each of the plurality of items;
- and
- comparing the reflectance signal of the isolated image pixels with a reference reflectance signal.
12. The method of claim 11, wherein each row of image pixels are between 64 and 2048 pixels.
13. The method of claim 11, wherein the reference reflectance signal is obtained by acquiring a spectral image of a reference package having a plurality of receptacles configured to receive an item, and wherein the plurality of receptacles in the reference package do not contain any items.
14. The method of claim 11, wherein the reference reflectance signal is a predetermined value.
15. The method of claim 11, further comprising dividing the array of image pixels into a plurality of image lines.

16. The method of claim 15, wherein each of the plurality of image lines are one pixel wide.
17. A push-broom scanning spectrometer, comprising:
- an imager adapted to simultaneously acquire a line of image pixels from a moving package, wherein the image pixel line comprises a plurality of contiguous spectral bands, wherein the image pixel line is oriented perpendicular to the direction of motion of the package, wherein the package includes a plurality of items;
  - a conveyer system adapted to move the package through a field of view corresponding to the imager; and
  - a processor capable of being programmed to compare the line of image pixels with a references signal and to determine the location of the plurality of items within the package based on the comparison of the line of image pixels to the reference signal.
18. The push-broom scanning spectrometer of claim 17, wherein the imaging element is a two-dimensional array of photo-detectors.
19. The push-broom scanning spectrometer of claim 17, wherein the line of image pixels corresponds to a plurality of pixel elements.

20. The push-broom scanning spectrometer of claim 17, wherein the scanning spectrometer is incorporated into a pharmaceutical packaging system.
21. A method of verifying the contents of a package, the method comprising:
- means for obtaining a spectral image of a first package, the first package having a plurality of receptacles configured to receive an item, wherein the plurality of first package receptacles do not contain any items;
  - means for acquiring a spectral image of a second package, the second package having a plurality of receptacles configured to receive an item, wherein the plurality of second package receptacles each contain an item; and
  - means for comparing the spectral image of the first package with the spectral image of the second package.
22. The method of claim 21 wherein the means for acquiring a spectral image of a second package comprises means for acquiring a plurality of spectral image lines and wherein each of the spectral image lines comprises a plurality of image pixels.
23. The method of claim 21, further comprising means for determining the location of the plurality of receptacles in the second package by isolating the image pixels corresponding to the items in the second package receptacles.

24. The method of claim 21, further comprising means for determining the chemical composition of each of the items in the second package.